IN THE CLAIMS:

Amend claims 1-7 as shown in the following listing of claims, which replaces all previous listings and versions of claims.

1. (currently amended) A Fourier transform processing apparatus, comprising:

a sampling process unit ~~for sampling~~ that samples input signals at a first frequency and sequentially ~~outputting~~ outputs resultant signals;

an averaging process unit ~~for~~ that sequentially ~~averaging~~ averages without duplication every predetermined number of signals from the sampling process unit and sequentially ~~outputting~~ outputs resultant signals at a second frequency which is lower than the first frequency; and

a Fourier transform process unit ~~for performing~~ that performs a Fourier transform process on the signals from the averaging process unit.

2. (currently amended) A Fourier transform process apparatus according to ~~Claim~~ claim 1, wherein the first frequency is n times (n is an integer equal to or greater than 2) the second frequency and wherein the averaging process unit averages every n signals from the sampling process unit in the order of input and sequentially outputs signals obtained through the averaging.

3. (currently amended) A Fourier transform process apparatus according to ~~Claim~~ claim 1, wherein the second frequency is 2^m Hz (m is a positive integer).

4. (currently amended) A pulse wave detecting apparatus comprising:

a signal detecting unit ~~for detecting~~ that detects a pulse wave and ~~outputting~~ outputs pulse signals associated therewith;

a signal sampling process unit ~~for sampling~~ that samples the pulse signals from the signal detecting unit at a first frequency and sequentially ~~outputting~~ outputs resultant signals;

an averaging process unit ~~for~~ that sequentially ~~averaging~~ averages without duplication every predetermined number of signals from the signal sampling process unit and sequentially ~~outputting~~ outputs resultant signals at a second frequency which is lower than the first frequency;

a signal Fourier transform process unit ~~for performing~~ that performs a Fourier transform process on the signals from the averaging process unit; and

a pulse rate calculation process unit ~~for calculating~~ that calculates a pulse rate based on the result of the process at the signal Fourier transform process unit.

5. (currently amended) A pulse wave detecting apparatus according to ~~Claim~~ claim 4, further comprising;

a noise detecting unit ~~for detecting~~ that detects kinetic noises and ~~outputting~~ outputs noise signals associated therewith;

a noise sampling process unit ~~for sampling~~ that samples the noise signals from the noise detecting unit at the second frequency and sequentially ~~outputting~~ outputs resultant signals; and

a noise Fourier transform process unit ~~for performing~~ that performs a Fourier transform process on the signals from the noise sampling process ~~unit,~~ unit;

wherein the pulse rate calculation process unit calculates a pulse rate based on signals output by the signal Fourier transform process unit and the noise Fourier transform process unit.

6. (currently amended) A pulse wave detecting apparatus according to ~~Claim~~ claim 4, wherein the first frequency is n times (n is an integer equal to or greater than 2) the second frequency and wherein the averaging process unit averages every n signals from the signal sampling process unit in the order of input and sequentially outputs signals obtained through the averaging.

7. (currently amended) A pulse wave detecting apparatus according to ~~Claim~~ claim 4, wherein the second frequency is 2^m Hz (m is a positive integer).